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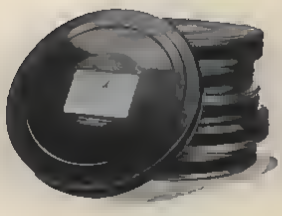
THIS MONTH: New Camera Car • Filming For Video • Magnetic Recording • Underwater Photography • Multiple Exposures • Cine Sunsets In Color

AUGUST 1950



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ON THE COVER

ON A DOWNTOWN LOS Angeles location for scenes for Paramount Pictures' "Union Station," director of photography Daniel Fapp, A S C, (top right) awaits director Rudy Mate's call to "roll 'em" Others in picture are (left to right) Rudy Mate, A S C, Haskell Boggs, operative cameraman, and Jimmy Grant, assistant, immediately in back of Fapp Below are William Holden and assistant director Eddie Salven — *Photo by Jack Kaufman*

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S C Agency, Inc, 1782 N Orange Dr, Hollywood 28, Calif Entered as second class matter Nov 18 1937, at the postoffice at Los Angeles Calif, under act of March 3, 1879 SUBSCRIPTIONS United States and Pan-American Union, $3 00 per year, Canada, $3 00 per year Foreign, $4 00 Single copies, 25 cents, back numbers, 30 cents, foreign single copies, 35 cents, back numbers, 40 cents Advertising rates on application Copyright 1950 by A S C Agency, Inc AUSTRALIAN REPRESENTATIVE McGill's, 179 Elizabeth St., Melbourne

★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios Its membership also includes non-resident cinematographers and cinematographers in foreign lands Membership is by invitation only

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art

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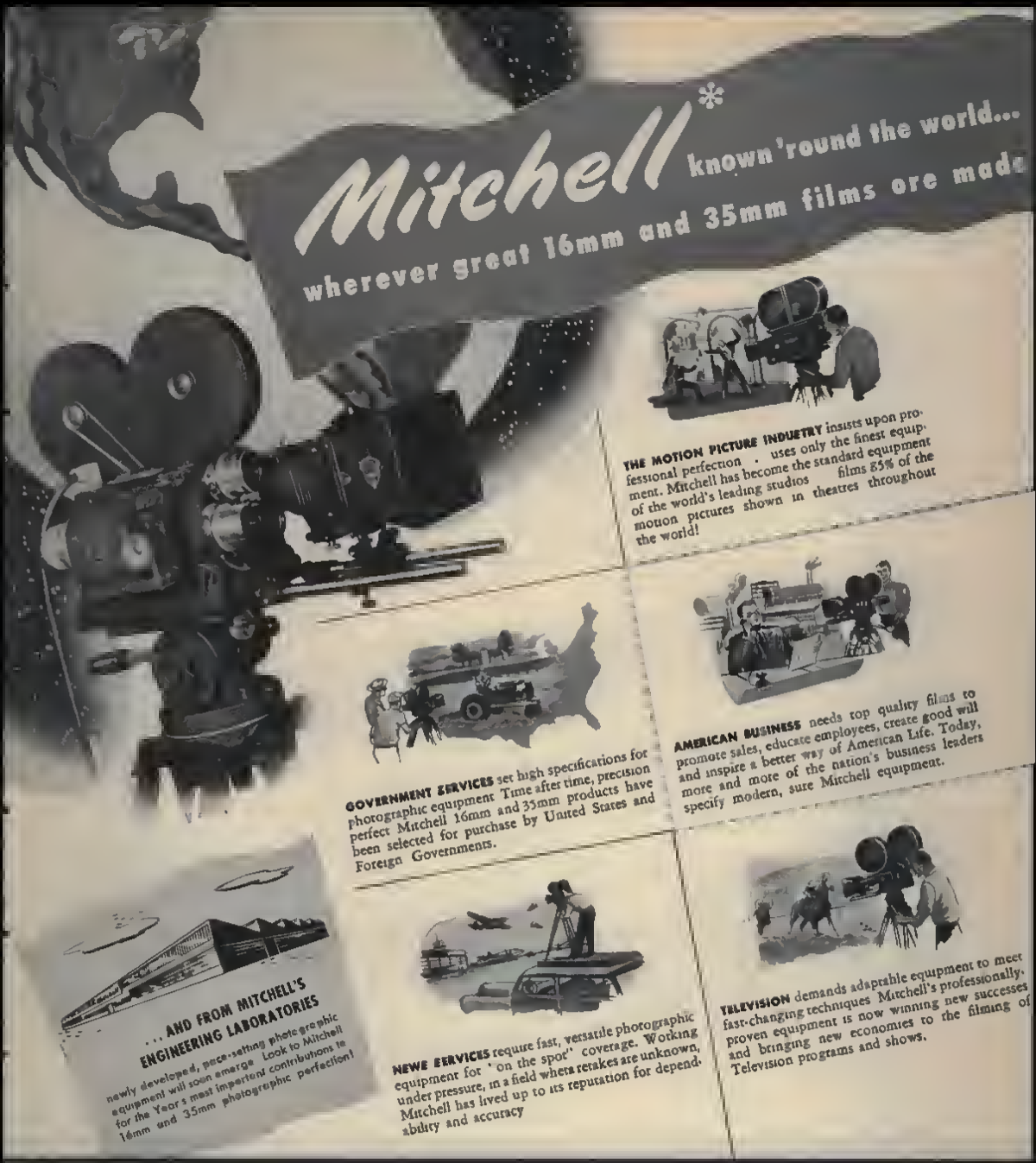

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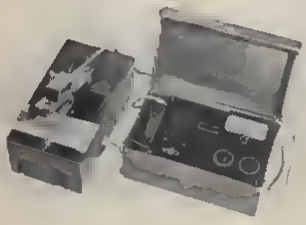

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Keeping up with
PHOTOGRAPHY

* *

Body cavity cinematography has been developed both in the U. S. and abroad as an adjunct to clinical diagnosis and pre-surgery analysis and examination. In the U. S. there has been recently introduced the Intraflex Cavity Camera, which is a combination 16mm. magazine-loading electrically driven camera and a projection-type light source and optical system. A beam of collimated light is projected from the unit coincidence with the camera cone of vision, the two cones being identical in space. The field area illuminated by the beam is identical with the area covered by the camera lens and varies in width from 1½ to 4 inches at camera distances of from 10 to 30 inches.

Such cinematography is confined to photographing the natural and surgical cavities of the human body which can be made visible to the external camera. These cavities are exposed for photography by the same means as those used by the doctor for visual examination. During an operation, they are held open by various types of clips and clamps. The oral cavity is made visible with the laryngoscope or throat mirror; the vaginal and anal cavities, by a speculum, etc

In England, A. E. Jeakins has employed a Cine Kodak-Special with a periscope built on to a lamp housing attached to the right of the camera so that the image seen in the periscope is the same as covered by the camera lens In conjunction with this, a laryngoscope is used but not clamped to any attachment in front of the camera lens Instead it is held several inches away from the lens during the interval of exposure.

●

Argentina technicians have perfected a means for electronically "blimping" the noise of motion picture cameras on the set The noise cycle is determined, then neutralized in the recording channel. Thus, camera blimps are done away with entirely both for shooting indoors or on location.

●

A whole new field of problems peculiar to color photography, including color temperature and color balance, in addition to gamma and density, will rise to complicate the job of the color cinematographer when color television arrives with its attendant need for kinescope and television recording of color video programs. Much work in this direction has been done by CBS and also by technicians at the Naval Research Laboratory. Using a Berndt-Maurer camera with a 25mm. f/1.4 Cine Ektar lens and daylight type Kodachrome, exposures were made of the color video image from a standard receiver at 15 f.p.s. synchronous, and at approximately 8 and 4 f.p.s. using the hand crank.

Still other tests and experiments have been conducted, using other types of motion picture cameras, with the various color television systems that have been developed to date. The conclusion, as reported by W. R Fraser and G J Badgley before the SMPTE last April, is that if standard speed (f/1.4) lenses are to be used for color television recordings, an increase in color speed or in television tube light output, or a combination of both amounting to two stops, or 400%, is necessary

●

Combining plastic and color impressions, a new system of three-dimensional motion picture projection, developed by a group of German research scientists, is said to produce an optical effect equal to that of a show produced on a stage The invention is based on the principle of circular polarization, and was developed at Bad Toelz, Bavaria, after many years of research

●

Cypress Gardens, Florida, happy hunting ground for photographers now provides a motor boat for visiting cameraist's use in making pictures of water sports activities On forward deck is mounted an elevated platform on which camera enthusiasts may stand or mount their tripods to shoot pictures as the boat speeds alongside of water-skiers, aquaplane riders, or speeding outboards Thus, as speed of cameraman and subjects is the same, subjects are practically motionless, which helps in making sharp pictures.

●

Great accuracy in the measurement of noise levels is claimed for a new echo-free room recently installed by the General Electric Company at its Wembly, England, research laboratories. One of its uses is to measure the arc noise from the GEC 150-ampere double-negative high-intensity arc lamps, providing data which will help the designers to produce equipment that will be trouble-free on the studio floor. Acoustical treatment of this room consists of nearly 3,000 Fibreglass wedges, each three feet long, so

(Continued on Page 288)

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Hollywood Bulletin Board

CHARLES G. CLARKE, A.S.C., winner of Picture Of The Month award for May for photography of Fox's "The Big Lift."

PHOTOGRAPHY of 20th Century-Fox's "The Big Lift" by Charles G. Clarke, has won for him the American Society of Cinematographers' "Picture Of The Month" award, announced at the Society's monthly meeting July 17. Clarke returns from France August 1st where he has been photographing "On The Riviera" in color. Following a brief rest, he will take off for Australia where he will photograph Fox's "Kangaroo."

●

JOHN BOYLE, A.S.C., returned from Japan, last month where he directed second unit photography on 20th Century-Fox's "Call Me Mister." Arthur Arling, A.S.C., heads the first unit at Fox Hills studio.

●

TRAVELOGUE, which Edgar Bergen, A.S.C., and John Boyle, A.S.C., photographed and produced in Sweden will emerge as a Warner Brother's two-reel short subject next month under title "Charlie McCarthy and Mortimer Snerd in Sweden." Boyle photographed the subject in 16mm. Kodachrome, using a Maurer camera. Release prints are by Technicolor.

●

BURTON HOLMES, recently reviewing some of his old films in storage, found certain footage that had been developed in river water in a Brazilian jungle was in better state of preservation than film that received laboratory processing!

ELMER DYER'S name has been added to list of Hollywood cinematographers who are finding increasing work in the production of films for television. Dyer recently completed photography on a series of 26 three-reel video subjects for Lewis Weiss. Previously, Dyer wound up photography of "I Killed Geronimo," proving that this veteran, noted for his aerial cinematography, is equally skilled with a camera on the sound stage.

●

MIKE DOYLE, erroneously reported here last month as affiliated with Cinema Arts Dept of University of California is with University of *Southern* California.

●

HUMBERTO CORELL, Argentina motion picture executive, in Hollywood on an equipment purchasing mission, reports production is booming in South America.

●

HERB A. LIGHTMAN, on leave of absence as program director for Cameron Television, Tulsa, Okla., is in Hollywood winding up production of a Community Chest drive film for producer Bud Woods. Ray Fernstrom, A.S.C., did the photography.

●

SOL HALPRIN, A.S.C., is in Germany for the purpose of scouting laboratory facilities in connection with production there of Fox's "Call It Treason," to be photographed by Frank Planer, A.S.C.

●

LEN ROOS, A.S.C., and **WILLIAM CRESPINEL**, A.S.C., heads of Kinevox, Inc., are presenting the American Society of Cinematographers with a public address system for its clubhouse in Hollywood, as an adjunct to Society's recently expanded facilities for conducting technical forums and demonstrations.

●

O. H. BORRADAILE, A.S.C., is off again to the land of penguins and Esquimos — this time to the Arctic where he will photograph a special assignment for the Canadian Film Board.

●

DON MALKAMES, A.S.C., currently photographing "St. Benny The Dip," in New York for United Artist's release, is brushing up on his Spanish preparatory to leaving for Spain and Tangiers where he will direct the photography on U-A's "The Man From Tangiers."

(Continued on Page 293)

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NEW MOTORIZED hydraulic "uplift" camera car is combination 4-wheel-drive army truck and freight-loading fork lift, makes possible use of blimped Technicolor camera in the most rugged of locations, and permits use of camera from ground level to height of fifteen feet.

WITHOUT disturbing camera or blimp, car moves into rugged location terrain for a closeup for Nat Holt's "The Great Missouri Raid" Inventor George Dye stands on camera platform while director of photography Ray Rennahan (cigar in hand) keeps eye on action

Boom Shots Anywhere!

New 'uplift' camera car makes 'impossible' location shots possible.

By JOHN del VALLE

FUNCTIONAL features of the invincible 4-wheel drive army truck have been combined with those of the familiar freight-loading fork lift to provide the motion picture industry with a new type camera car that affords exterior boom shots in the most rugged of locations. At the same time, several basic obstacles to full-scale movie production in rugged country also have been surmounted

The new innovation which makes possible boom shots anywhere a jeep can go is the self-propelled hydraulic "uplift" camera car designed by camera technician George Dye and studio grip John Cooley. It consists essentially of a 4-wheel-drive war surplus weapons carrier on the front of which is mounted an hydraulic lift capable of hoisting any bulk up to three tons to a height of 15 feet. This capacity easily accommodates the 800-lb Technicolor camera plus crew that normaly constitute a maximum load under working conditions on a location set.

Successful first use of the uplift camera car was recently completed at Sonora, California, where it was used in filming exteriors for the Nat Holt production, "The Great Missouri Raid," photographed in Technicolor by Ray Rennahan, A.S.C.

A feature of the new car is that it also serves as a general "carryall" for equipment necessary to shooting — equipment such as mike boom, camera accessories; lighting aids like reflectors, gobos, etc., and, when necessary, booster and key lights. "The uplift camera car will do anything in the roughest country that a camera crane will do in the studio," said George Dye, co-builder and designer. "But more important," he continued, "the car now makes it possible to use the Technicolor camera *with blimp* in rugged locations where never before attempted Heretofore, it has been the practice to leave the blimp behind and shoot scenes in such locales without benefit of dialogue or sound, dubbing this in later Thus it is necessary for the studio to tailor the script so that dialogue is recorded in scenes up to the inaccessible spots, then the

(Continued on Page 282)

SPEED AND MOBILITY are two features of Dye-Cooley "uplift" camera car that can transport a heavy Technicolor camera and operator to near-inaccessible locations, set up and ready for action

Realism With A Master's Touch

Startling depth of field and dramatic perspective mark the photography of "Asphalt Jungle," which Hal Rosson photographed almost entirely with a 35mm. lens.

By HERB A LIGHTMAN

"ASPHALT JUNGLE" is a tautly-paced drama of the underworld that runs the emotional gamut from harsh brutality to quiet sensitivity. Its plot is based on the familiar chase pattern, but more specifically the pursuit by the law of a group of shady characters involved in a jewel theft.

It is the type of a story which, in less skilled hands, might have evolved into a run-of-the-mill melodrama — but favored by the incisive direction of John Huston, the outstanding photography by Hal Rosson, A.S.C., and top-notch performances by a uniformly excellent cast — the picture emerges not only as bang-up entertainment, but as a very artistic technical achievement as well.

It is Rosson's craftsmanlike photography as much as any other element or combination of elements that makes MGM's "Asphalt Jungle" an outstanding photoplay, for here is a film that leans heavily upon photographic mood in order to create its dramatic impact. For Rosson the filming of the picture was a particularly enjoyable experience in that it marked the first time in his lengthy career as a Director of Photography that he has been called upon to create so starkly realistic a style of photography. "It is a great tonic for a cameraman to work with John Huston," he observes, commenting on the filming of the picture. "Huston is a man of very original approach. He knows what he wants but is very receptive to ideas and suggestions from his fellow technicians. He wanted 'Jungle' to have the look of having been filmed entirely in actual locales, without any *studio* atmosphere — and so we worked closely together to produce that effect."

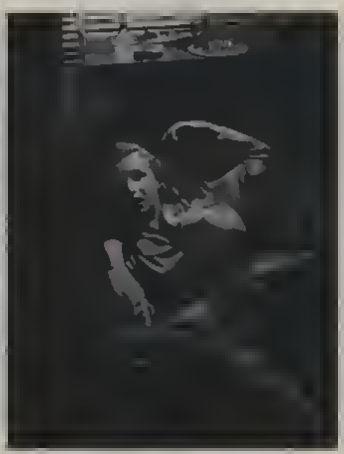
THE CAMERA is set for an over-the-shoulder shot of Louis Calhern writing a letter in a scene for MGM's "The Asphalt Jungle," with director of photography Hal Rosson, A.S.C. (far right) supervising last minute details before the take is made

The final product as it appears on the screen is indeed the result of very careful pre-planning by director and cinematographer. The picture's title refers to a *city* (and not, as many people think, to the place where Tarzan used to hang out). But it was not important that the city be identified as any particular one — in fact, the producers preferred that the city be unidentified. With this in mind, and because the original script called for a waterfront locale, Huston and Rosson scouted locations in St. Louis and Cincinnati. After several weeks of scouting, it was decided that all of the scenic requirements could be met on the West Coast — so with the exception of one shot, all of the metropolitan shots were made right in Los Angeles.

For filming these scenes the studio received the close co-operation of civic authorities so that various areas could be roped off. Many of the sequences, as demanded in the script, were filmed in the early morning hours when the deserted streets lent further atmosphere to the situations.

In shooting the picture, Rosson avoided the usual "documentary" style of photography, which has become a kind of vogue since World War II. With all due respect to those who have achieved great cinematic effects through the use of this unvarnished type of photography, it can also be said that much downright poor photography has slipped by with the excuse that it is *documentary*. Rosson

(Continued on Page 286)



A CAMERA setup and the result are shown in these two pictures made on the set during filming of MGM's "The Asphalt Jungle." At left camera and lights are set in place for a closeup of Marilyn Monroe on couch. At right is result of the careful lighting and camera placement by Hal Rosson, which made this simple shot so effective

ONE OF HOLLYWOOD'S biggest camera booms was employed by Ray Fernstrom in filming scenes for a series of video spot film announcements for Ford Motor Co. Shadow patterns projected on huge backdrop enhanced pictorial composition.

Filming Fords For Video

Major production values enhance photography of new series of television spot announcements for Ford motor cars.

By RAY FERNSTROM, A S C

IN THIS RAPIDLY changing world, pictures — *moving* pictures — are exerting tremendous influence on people. Confucious, as now we well know, was so right when he said one picture was worth ten thousand words; and if further proof is necessary we have only to look at the statistics, which prove that television is a far more potent selling medium than radio.

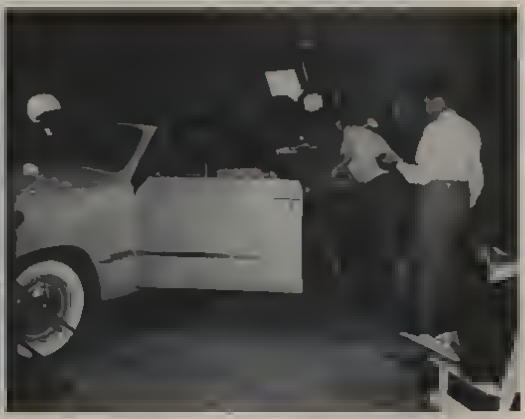
Little wonder then that Ford Motor Company is among the first to employ television to promote the sale of automobiles. They know the value of presenting their product pictorially, and are now bringing Ford motor cars right into the homes of millions of Americans through the medium of motion pictures and the kinescope tube.

Fords are so well known and so numerous that simply picturing a shiny new Ford sedan or convertible on the screen was not considered sufficiently potent. Something new was demanded to make Ford's television presentation simple but effective. Ford Motors found the answer in United Productions of America, whose studio is in Burbank, California. Here were men with years of motion picture experience behind them, but more important they had been schooled in the short subject field, in the production of animated cartoons. Thus they came to know the potency of simplicity as applied to screen composition, and it was this simplicity applied to the first television commercial films U.P.A. produced for Ford that set the pattern for a new and extended series of Ford TV commercials.

While the settings for these commercials demanded the skilled engineering of U.P.A.'s veteran set designers, it was on the cinematography that these Ford television films were to stand or fall. As the director of photography for the films, I saw opportunity to utilize theories lying back in my mind for some time. I had long felt that not all the tricks of our cinematographic art had yet been applied to the production of films for television. Where heretofore television films had been greatly restricted by skimpy-budget methods, U.P.A. decided that only the best of cinematographic techniques, should be employed in making the Ford

(Continued on Page 283)

DOMINANT cinematic device was the moving camera used extensively in photographing the series of Ford television and advertising films.



THE CAMERA moved in close to show detail of each car's interior styling and handsome deshboard, posed some unusual lighting problems.

Taking Full Advantage Of Magnetic Recording

Latest magnetic sound recording methods and equipment enable studios to cut costs and speed up production.

By LOREN L RYDER, A S C

Director of Recording Paramount Pictures Corp President Ryder 16mm Service Inc

THE ADVANTAGES of magnetic recording can reach far beyond quality improvement and simplification in the sound department. In fact, the greatest simplification and potential savings are to be made in the laboratory, editorial camera and production departments.

Sound has been credited with saving the motion picture industry in the late twenties However, production schedules doubled and trebled; sound film footage equaled picture footage; laboratory costs and processing doubled; editorial film handling more than doubled; cameramen started dodging the microphone; cameras were turned over by remote control and production shooting went on a precued basis. In the intervening years most technical advancements have improved quality and added complexity. Individual departments may have simplified their technique, but in twenty years there has been no overall review and change in inter-departmental handling. This may be the time to make such a change

In evolving the system outlined in this article, the writer has made every effort to make picture shooting with sound as simple as possible, basing the general scheme of operation on the procedure used before the advent of sound. The reward is a large saving to the user.

The system includes a suitcase production recording channel using 17½mm. magnetic film, a system of transferring the print takes to direct positive photographic film for editing and an edge-numbering device for identification and synchronization of all film. At the Paramount studio, 35mm. magnetic film is used for all dubbing and scoring. The transferring during picture finishing is largely magnetic to magnetic.

The production recording channel is shown in the illustration. It includes a two dial mixer, a power unit (not shown) and a recorder. The complete channel, loaded ready for use, weighs under 100 pounds. In operation two recorders are assigned to production, each loaded with 2,500 feet of magnetic film. This eliminates loading delays and minimizes run-outs. These recorders are

AUTHOR displays two units of three-piece portable, light-weight magnetic sound recording channel described in accompanying article

completely automatic in operation and are turned over and killed along with the camera under the control of the cameraman, thus eliminating signalling and turn-over delays. On location the speed control is automatic and absolute. Synchronization is automatic and without clapsticks Trouble shooting on production is eliminated. The equipments are exchanged in case of trouble or suspicion of trouble.

Subsequent to the day's work the print takes are transferred from magnetic to direct positive photographic "electroprints" which in turn are developed and used for editing. The transfer reproducer is equipped with a counter and is capable of fast winding both forward and backward. The operator fast winds down through the roll, monitoring and checking his log, until the synchronization click for the first print take is located. The transfer is then made electrically to the direct positive print. The direct positive recording machine is equipped with a special photographic marking device that exposes the production number, scene number, the take number and the footage at one foot intervals along the edge of the film The sound recording is by the supersonic, direct positive, variable density method

Two rack-mounted panel type recording units are used for each scoring channel. The machines are used alternately; 1,000-foot lengths of 35mm. magnetic film are threaded on a head sync mark and fast wound down to the predetermined footage for the start of music. While the first take is in progress, the second recording machine is threaded When a print take is obtained it is ready to go to the dubbing channel for dubbing without cost and delay of cutting or resynchronization The out-takes are subsequently erased. If playbacks are required, they are made instantaneously from the production recording.

Special transferring machines are used for the synchronization of sound effects and to supply the magnetic sound print for dubbing. Transferring replaces cutting and splicing. Magnetic sound effects from the library are transferred to 1,000 foot lengths of magnetic film in the correct position for dubbing. In other words, continuous 1,000-foot lengths of magnetic film replace the cut-together sound effects sound tracks now used in dubbing. In a similar manner original magnetic dialogue is transferred to 1,000-foot lengths of magnetic film so as to give a magnetic duplicate of the cutting print. Synchronization is established by the edge numbers previously mentioned. All dubbing work is to magnetic film, thence transferred to the release negative.

In the above it is to be observed that the only photographic negative used in the entire plant is the negative which is used for release printing. This not only saves the cost of the negative film but also eliminates the cost of processing same. It is also to be observed that there is no cutting or mutilating of the mag-

(Continued on Page 289)

Underwater Photography

— Part 2 —

By J B. COLLINS, B Sc., M B K S

Reprinted from *The Photographic Journal* Vol 90B 1950
Courtesy Royal Photographic Society

SPECTRAL TRANSMISSION is just one of many problems encountered in initial underwater filming experiments by Dr Olle K Berlin (left), shown here taking a special Bell & Howell underwater camera aboard his bathoscope prior to descent to ocean depths for another undersea filming expedition

FOREWORD. This month we conclude Mr. Collins' article on Underwater Photography. In the July issue, the author described the physical basis of underwater photography by daylight, the varying intensities of light under water, and the attendant lighting problems. This month he describes the design of underwater motion picture cameras and the technique for cameramen filming with such equipment.—EDITOR

IN ALL UNDERWATER camera equipment so far designed, the following requirements have been regarded as essential:

1. The complete camera in its housing must be easy to maneuver.
2. It should have slight positive buoyancy, both to assist in maneuvering and to guard against loss
3. Lens stop, focus and operation controls must be brought out of the case for operation by the diver-cameraman when submerged.
4. The housing must be able to be opened quickly to enable the camera to be reloaded above the surface; this should be possible without dismantling the controls.
5. The housing must withstand the pressure at a depth of 100 feet without appreciable deformation. In addition, trials with a still camera have demonstrated that a movie record is essential if any impression of depth and any idea of relative distances and sizes in the picture are required. This is mainly because the field of view of any underwater camera is reduced three-quarters of its value in air so that, although the lenses covering the widest possible angle are always used, the field seen in one single exposure is small, and a series of pictures is essential to cover a reasonable area. All objects will appear to be at three-quarters of their measured distance, but when estimated by eye behind a diving mask, conditions are the same as for the lens, and no correction to the estimation need he made.

The format or physical size of the image is decided by the conflicting requirements of ease of handling and quality of reproduction obtainable Thirty-five millimeter film is very suitable since it enables compact equipment using standard camera movements to be designed, with which good quality reproduction can be achieved.

The movement chosen for the first underwater camera designed for this work was a "Morigraf" 35mm. spring-driven camera This can be loaded with magazines containing 60 metres (196 feet) of film, giving a total running time of two minutes, but it will only run half the magazine on one winding of the spring, so that provision had to be made for speedily rewinding the camera without breaking the main watertight joint when returned to the surface The stop and focus controls are led out by concentric shafts to the center of the back just above the footage indicator window. The operating lever is adjacent to the right handgrip A watertight nut over the winding key aperture is located just forward of this.

The body of the housing is constructed of two chromium-plated thin copper spinnings, soldered to flanges which are pulled together on a recessed rubber gasket by 12 bolts to make the main watertight joint at the center of the housing. The

(Continued on Page 280)

SUBMARINE housing for electrically-driven 35mm motion picture camera described by author Camera is Vinten model "K" movement which takes 200 foot film magazines, is fitted with 25mm f/2 Cooke "Panchro" lens, and operated by remote control in handgrip.

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Next year, ten awards for THE TEN BEST FILMS will be presented to lucky amateur cine photographers.

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AMERICAN CINEMATOGRAPHER
HOLLYWOOD

GHOST IMAGES are among the simple double-exposure effects possible with cine cameras providing careful attention is given to lighting. Note how special lighting of girl — low light on face and effective side lighting — insures visibility of image against medium background

DOUBLE-EXPOSURES —how and when to use them

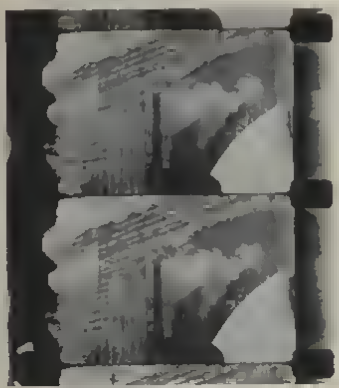
BY BURTON TAYLOR

DOUBLE EXPOSURE can be more than a cinematic trick for the movie amateur, often making it possible for him to point up his picture more effectively than when using mere routine photography. Besides, use of double-exposure is a valuable film saver in that it frequently enables the cine amateur to compress action into less footage.

Reduced to the most elementary terms, double- or multiple-exposure consists simply of photographing a scene, stopping the camera and winding the film back to the starting point, then re-exposing it on some other action which will be seen superimposed over the first.

Shooting double-exposures is accomplished more easily with cameras which permit winding back the film. The Cine Kodak Special, Bolex and the new Pathe Super-16 are some of the cine cameras which provide for back-winding. For others, it is possible to have wind-back attachments installed. With these cameras, all that is necessary is to note the footage meter reading at the start of take No. 1. After the scene is shot, cap the lens and wind the film back until the original starting point is noted in the footage meter. Then remove the lens cap and re-expose the film for the second exposure, making sure that it runs exactly the same length as the first. Obviously, it will be necessary to note the footage mark at the end of take one as well as at the beginning to insure takes of equal length.

If yours is a camera not provided with a back-wind, you can still shoot double exposures. You will need either a darkroom or a changing bag. Before making your initial shot for a double- or multiple-exposure, slip the camera into the changing bag, open it and make a small notch in the edge of the film at a convenient point — usually before film enters the gate.



EFFECTIVE triple-exposure montage filmed with a Cine Special camera that provides backwinding and through the lens focusing

Shoot take No. 1 in the usual way, keeping careful note of the length of the scene. Then return camera to the changing bag, open it, and wind back the film by hand to the starting point indicated by the notch. Re-thread the camera with the notch in the same position as before, close the camera and remove from changing bag, and you are ready to shoot take No. 2. Once you get the hang of it, you can make triple- and quadruple-exposures — more if you wish. One word of warning at this point — if you employ the notching method of marking the starting point on your film, always be sure to set the notch at the same starting point with relation to the film gate each time.

Using a darkroom, of course, all these steps may be done with greater ease — and visually under a safelight, if black and white instead of color film is used. Regardless of the cinematic effect desired — be it a simple double-exposure or a double-exposure employing split screen or mattes, or a montage effect composed of several superimpositions on the same length of film, mastering the "wind-back" is the first basic step, for unless you can return the film to the exact starting point each time, there may be a distracting "jump" in the appearance of the subsequent image, or an overlap.

Now suppose you want to get what the professional calls a "split-screen" effect in which the background of the frame remains the same but your subject appears "doubled" or as twins in the scene. This effect calls for use of a matte which masks off one-half of the film frame, so that only half of it is exposed on each take. Some cameras, notably the Cine Special and some Bolexes provide for mattes to be inserted between the film and the lens in the camera. Tiny slots are provided in the camera to take

(Continued on Page 280)

A SUNSET is an extremely contrasty subject to photograph To successfully capture such scenes as this on movie film correct exposure is vital Use a photo-electric light meter for this

Filming Sunsets In Color

Here is the answer to that problem of how to get correct exposure.

By HERB STILES

Of ALL THE scenic shots which challenge the amateur movie maker, colorful sunsets demand and get more attention, perhaps, than any other subject And no wonder. Never alike in pattern or color, sunsets provide the climactic highpoint for almost any outdoor film, inevitably supplying the fade-out scene that closes all good scenic, travel and vacation movies.

Not every cine photographer succeeds in filming sunsets in color with the anticipated pictorial results, for there is a trick to shooting this subject with color film that demands careful attention to both composition and exposure

The sunsets we refer to here, of course, are those where old sol descends in the west midst a panoply of clouds bathed in a myriad of colors How to capture this colorful scene on film in all its glory depends first on correct exposure, and here is where many filmers encouter trouble. Since movies of sunsets are made essentially of sun and sky, which is the light source, exposure guides and charts cannot always he used with success. The only sure means of measuring the light for an exposure of this kind is the photo-electric type exposure meter.

The height of the sun above the horizon, amount of atmospheric haze, the type of clouds in the sky — light, heavy, etc , and whether the picture is to include only the sky, the sun and sky, or the afterglow following actual setting of the sun are factors which affect the light on which you will base your exposure.

The thing to remember is that a sunset is an extremely contrasty subject to film, with the sun many times brighter than any dark shadows appearing in the foreground. No color film is capable of recording both the sun and detail in foreground objects in full value at the same time. To expose for the foreground in a sunset scene, the sky and sun obviously will be greatly overexposed. Conversely, exposing for the sun and sky will result in foreground objects registering opaque or in silhouette — which is the effect most desired in a sunset shot.

Of course, not every movie maker will agree as to what constitutes the perfect exposure for a sunset Some like fully exposed sunsets while many prefer the somber, darker result that follows slight under-exposure. But most photographers agree that the latter is more dramatic pictorially, so if its "oh's" and "ah's" you want, stay on the under-exposure side.

It is the sky and the colors in the sky which we most desire in the picture. The foreground objects (and these certainly should be prominent for compositional qualities, as we shall presently explain) are secondary to exposure So if the sky is our main objective, then best photographic results will follow where a meter reading is taken of the sky Aim the exposure meter at that point in the sky occupied by the sun, whether completely or partially obscurred by clouds; and remember that any slight under-exposure only adds to the effectiveness of the shot.

(Continued on Page 285)

Leading film producer Irving Hartley of Hartley Productions, N. Y. C., shooting a scene at Chichicastenango, Guatemala, for the Pan American World Airways color travel film "Wings to Mexico and Guatemala"

Here is the Maurer 16 mm. at Chichicastenango!

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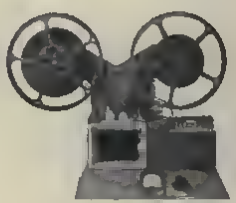

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DOUBLE-EXPOSURES

(Continued from Page 277)

the thin metal mattes which often are of various shape and design. The use of mattes behind the lens insures utmost accuracy and no line of demarcation between the two images when the film is screened.

The alternative is to use a matte box which holds mattes or masks some distance ahead of the camera lens. Here, accuracy in alignment of the matte box and mattes is highly important, otherwise errors will occur which will show up disappointingly on the screen. Do not attempt to achieve the split-screen effect by masking the front of your lens. Such masking would be too close to the lens, resulting only in reducing the amount of light passing through. In *front* of the lens, the masking must be placed several inches ahead of it. With some cameras, is is possible to remove the lens and insert mattes immediately in front of the film gate, but where this may interfere with proper seating of the lens, when it is returned to the camera, it should be avoided, as out-of-focus pictures will result.

For a simple two-exposure split-screen shot, two mattes are required — one for each side of the film frame. In some instances and where the division is exactly down the center, only one matte is necessary — same being reversible for use on the opposite side. It is important that edges of the mattes be smooth.

Making the first shot is simply a matter of inserting the matte, shooting, backwinding the film, changing mattes and shooting again. The important thing to remember in using mattes behind the lens is that the lens both inverts and reverses the image on the film. Therefore to matte out, say the right-hand side of the picture, the matte must cover the *left-hand* side of the aperture.

In making split-screen shots, it is essential to use a tripod for the camera, (the sturdier the better,) for the camera must be in identically the same position for each shot of the multiple-exposure; otherwise the two halves won't match. It also helps if you choose your camera setup so that the matte-line coincides with some definite line in the scene, as, for instance, the line formed by shooting diagonally into the corner of a room. The action must naturally synchronize, too. The simplest way to assure this is to rehearse carefully, timing both rehearsal and the shooting by slow, deliberate counting. If a stopwatch or electric timer is available, use it.

This timing is essential in making composite shots such as that of a person sitting, reading his paper, when suddenly the door opens and in walks the same man. The person seated must know exactly when to look up and see "himself," while the man who enters the door must also know when to react to his double's surprise. Thus, if the person seated knows that at the count of five his double will enter the door and that at the count of nine, he is to look up at him and register surprise, etc., the action will be fully synchronized and have a professional effect on the screen. This synchronization is best regulated by an assistant audibly counting off the seconds off stage.

"Ghost" images can be produced by double-exposure, but without resorting to use of mattes. The ghost effect is a simple double exposure, so that the background will show through the tenuous apparition. A typical ghost image shot is illustrated here. Note how special lighting was employed in shooting the apparition, a woman, to make her stand out in a third-dimensional effect from the background. A spotlight was placed low to throw light upwards into her face, and there is ample side-lighting, both left and right.

While many movie amateurs have encountered opportunities where double exposures would have enhanced their story films, here are examples of plot action where such effects may be employed to telescope a lot of story telling into a minimum of footage or to show more or less parallel action suggested by the basic scene: Let's suppose we are to show a girl, whose sweetheart has gone to the mountains on a fishing trip, reading a letter from him telling of his experiences. We can double expose shots of his activities in a corner of the film frame — showing her reading the letter, and her sweetheart enacting the incident about which she is reading. Here is how it is done. When filming the part of the scene showing the girl reading the letter, the upper corner — right or left, whichever best suits the situation — is masked off with an irregular matte. This scene is then wound back in the camera, (with the lens capped, of course,) the corner matte removed and a matching matte employed to mask off the girl, etc. The camera is then set up and focused on the action of her sweetheart (fishing, hiking or riding, etc.,) so that this action fills the area of the film frame previously blocked out by the first matte.

Obviously this calls for a method for observing how this fragmentary scene will appear on the film, and for this a method of sighting through the lens is essential to best results. The Cine Special, both the 8mm and 16mm. Bolex, the Filmo 70DA, the Victor Model 5, and the Pathe Super-16 cameras — to name a few — afford this alignment feature. Homemade shiftover devices and non-parallax viewfinders will enable owners of other cameras to obtain fair accuracy in lining up the secondary image of a double exposure of this type.

Another case is where it is desired to show what a person is thinking or dreaming about — simply superimpose it above the person shown, in the upper part of the film frame, using the matte procedure outlined above.

Split-screen double-exposures can be employed for other purposes than those already described: in introductory titles, in which the title text occupies one-half of the frame, and the person introduced the other, to show two persons talking on the telephone, or to show the action of two persons in adjacent rooms, with the room partition running down the middle.

By simply multiplying exposures without resorting to use of mattes, interesting montage effects can be achieved, such as for instance the example shown in accompanying illustration.

Don't feel for a minute that because only certain cameras have been cited above that double-exposures cannot be made with others. No, the imaginative cine photographer with patience and a flair for gadgeteering can produce effect shots with the simplest 8mm. or 16mm. camera, following the data given here. Accuracy, of course, is a prerequisite — accuracy in making the mattes, in inserting them in the camera or matte box, in lining up the various takes for the composite shots and in timing. Such work is an essential step in the amateur's progress toward advanced cine photography.

UNDERWATER PHOTOGRAPHY

(Continued from Page 274)

camera movement and all controls are carried on the back dome to reduce difficulties due to distortion of the shell under pressure, and avoid any dismantling of the interior when loading with a fresh film magazine. The excess buoyancy of the complete camera is adjusted to half a pound by lead weights attached to the twin keels, which are arranged to make it float upright and on an even keel to prevent the diver-cameraman having to apply a correcting torque to keep it trained. A bead and frame sight is provided on the top of the housing, but it has been found that it is rarely necessary to use this, as it is usually possible to train the camera sufficiently accurately

without it. The lens used is an f/2, twenty-five mm focal length "Kinoptik" which was found to give very good definition and coverage. The complete housing with camera weighs 47 pounds (including keels) in air, and is 18 inches in overall length and 12 inches in diameter.

A second camera was designed using an electrically driven Vinten model "K" movement. This can be loaded with 200 foot magazines the whole of which can be run without stopping, giving a running time of two minutes, or twice that of the spring-driven camera. A view of the housing is shown in Fig. 2. General construction is similar to that of the spring-driven model, but the twelve small bolts have been replaced by four hinged bolts with large nuts (tightened with the aid of a key). This considerably speeds up the reloading process, so that the speed of working with this camera, when a number of successive sequences is required, is greatly increased. The lens used is an f/2, twenty-five mm. focal length Cooke "Panchro" and the stop and focus controls are also brought out by concentric shafts to the back of the body. In this case, however, the focusing shaft carries only an indicating dial, focus being adjusted by a lever adjacent to the right handgrip. Thus it is unnecessary for the operator to let go the camera with one hand to adjust focus during runs when the distance is changing.

The running control is by the other handgrip, and the movement is driven from six miniature "Nife" batteries, which will drive through 17 magazines of film before the speed begins to drop seriously. The camera movement together with its battery is again mounted on the rear dome on a plate which slides on rails in the fore-part. The total weight in air is 45 pounds (only light fin keels being necessary in view of the weight of the battery), the overall length is 19 inches, and diameter 10 inches. The air connection seen at the front of the housing permits pressurization if the camera is to be taken below 100 foot depth, as the specially shaped re-entrant fore-part would otherwise probably distort seriously with the greater external pressures.

A third camera (illustrated in the July issue), using 16mm film, was designed with a view to producing an instrument of small bulk and weight for underwater use where the loss in definition implicit in the smaller format would be acceptable, and also to enable standard "Kodak" magazines to be used for trials with color film. The housing is made of thin steel tube, "parkerized" and white enameled, with the front spun dome held on to the main body by six hinged bolts

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and wing nuts, the joint being made watertight by a recessed rubber ring as with the larger camera housings

The camera which is mounted on vertical plate sliding in top and bottom rails in the main body, is an electrically driven gun-sight camera which can be run at 16, 32, 64 frames per second, and which has been adapted to take an f/2, 16mm. focal length "Xenon" lens or an f/1 5, twenty-five mm. "Xenon " At present, no controls for the lens stops or focus are brought outside the housing, so that the lens has to be pre-set and used under constant lighting conditions and at a constant distance for each run. These limitations are not too serious in view of the greater depth of focus of the short focal length lenses, and the fact that color film under water needs the widest aperture even under the best lighting conditions

A control system is now being designed, however, to permit at least the focus to be adjusted below the surface. The running control switch is fitted into the right handgrip No keel is fitted to this camera housing, its total weight (with 12-volt "Nife" battery) being 25 pounds. The overall length is 18 inches and the diameter 7 inches.

It cannot he too strongly emphasized that development of this underwater photographic technique has depended in great measure on the parallel development of suitable technique of free diving, and to assist in this work a trained underwater swimmer and diver was attached to the group by the Director of Boom Defense and Salvage. It was obvious from the commencement that the standard helmet diving technique would be quite unsuitable, due both to its restriction of movement and to its inevitable consequence of clouds of mud or sediment stirred up as the diver moves his weighted feet A breathing set using compressed air carried in cylinders on the back was developed In this apparatus the high pressure air (at 1,800 lh. /sq. in), is led through a reducing valve to a "demand valve" which supplies the air through a mouthpiece according to the suction of the diver's lungs. Expired air is breathed to waste through a spear valve situated, together with the demand valve, high up on the diver's back so that the exhaust bubbles do not interfere with his vision or photography.

The duration under water of this equipment is at present limited by the size and strength of the compressed air cylinders available, but a trained diver can usually remain at a depth of 60 feet for half an hour; this figure, however, varies greatly with the amount of activity during the time, and is very much less for a diver inexperienced in "self-contained" technique. (The set is seen in use in the illustration accompanying part 1 of this article, which appeared in the July issue.—EDITOR.)

BOOM SHOTS ANYWHERE

(Continued from Page 270)

remainder of the takes shot without sound Now we can leave the blimp on the camera, move in to any location spot and, shoot sound and picture, saving the studio considerable expense Even more important is the fact that authentic background sound can be recorded in these 'inaccessible' locations, thus lending greater realism to the scene."

Considerable filming of "The Great Missouri Raid" was done away from any road or other smooth surface. Typical settings included a steep bank of the swift Stanislaus river, huge boulders beside the river, a forested mountainside, a farm and a rural railroad right of way. In the latter, for example, the uplift camera car was driven directly to the location and right up to the tracks The switch was thrown on the hydraulic hoist and the camera elevated to the right height for the shot. The scene was set up and photographed in less time than would have been required to erect a parallel for the camera, had the uplift camera car not been available.

The hydraulic lift which provides the sturdy platform for the camera and operator, is raised or lowered by power furnished by the car's motor. The camera may be operated at ground level or at any point up to the maximum height of fifteen feet. The camera itself may readily be panned in a 280-degree arc, increasable at full height to full 360-degrees, and may be tilted up or down a maximum of 15-degrees for angle shots.

Wide tread tires insure positive traction over any kind of terrain and lend stability to the elevated camera platform when camera is in operation. Effective boom shots may be made as the camera platform descends, held in check by the hydraulic cylinder. Only when the platform is to be elevated is it necessary to operate the car motor to drive the hydraulic pump.

Commenting on the car's efficiency, director of photography Rennahan said: "In every instance the uplift camera car proved its unusual worth. It makes possible completely fluid camera operation, It obviates the customary time-consuming practice on location of dismounting the camera from its hulky blimp at time of changing each setup Instead, the camera car with equipment and crew intact is simply moved to the new setup, ready to shoot, saving both time and manual effort."

This Dye-Cooley development fits in with the current trend for more economy in Hollywood production. In this instance it served as a companion piece to two other developments that are bringing about profound changes in the technique of location filming.

One is the extremely compact, lightweight and portable magnetic tape recorder which affords direct dialogue recording of top studio quality, even in the most rugged and near-inaccessible locations. The unit used on this production weighed but 150-lbs. and with bulk approximating that of a large suitcase. It replaced the seven-ton truck sound recording unit formerly necessary for location production.

The third item is a recently developed lightweight location generator unit, self-contained on a medium truck chassis. This 1500-amp. generator is powered by a lightweight aircraft engine and provides abundant power to light the largest night exteriors for color A similar 600-watt generator unit enabled director of photography Rennahan to set something of a technical milestone by photographing action for the picture aboard a moving train, complete with full sun-arc illumination of the car interiors, and with direct dialogue recorded simultaneous with the action. With ample interior illumination to balance with the outdoor light coming through the car windows, Rennahan thus eliminated need for process backgrounds or cumbersome studio matchup settings for a marked savings in production costs

Of all these innovations, it is the uplift camera car, Rennahan believes, which promises the greatest benefits to production of films in color, greatly widening the scope of Technicolor photography, as it does, by permitting use of the fully blimped camera in "impossible" locations.

Encouraged by the initial success of the first uplift camera car, Dye and Cooley have completed a second and are in production on a third, with reason to hope that their invention may rate Academy honors next spring, by which time the whole industry may be reaping the benefits of its use.

As many as 8 cameras have been used to shoot a single scene in Rome for Metro-Goldwyn-Mayer's "Quo Vadis," first Technicolor picture filmed there

FILMING FORDS

(Continued from Page 272)

Thus, large sets were used and the pictures filmed on a standard Hollywood sound stage. Long tracks and larger crane booms were employed. Some of the largest cycloramic backdrops were utilized for the backgrounds which were photographed at General Service Studio.

When first I undertook the photography of films for television, I thoroughly studied the negative factors of the medium, embracing live, film and kinescope shows, average home reception qualities and the picture quality as received over tubes of various shapes and sizes. Thus it was that one of our first steps was to etch our camera finder glasses closer on the sides, top and bottom so that none of the important details in the picture would be cut off. It was important that Fords, and especially the pictorial detail which we emphasized with our camera, register solidly with the nation's TV viewers.

The second important negative factor I found was the lack of definition of many TV films as viewed on home video sets. This situation compared with the lack of definition in background screens in relation to foreground action in feature film production. In the studios, we can overcome this bugaboo by shooting on background-X negative with its extra fine grain and develop the film for best possible definition. Most studio background plates are shot out-of-doors in sunlight. So we combined the two studio alternatives — fine grain negative and plenty of light — and applied them to our TV film production. Probably for the first time, mammoth brute arcs were employed in photographing scenes for TV films.

Pathe laboratory chief George Crane supervised the development and printing of our dailies with such care that NBC later said the results were the best they had ever seen on a closed circuit.

For the first fifteen films in this Ford series, we had to adjust ourselves to a new photographic routine—that of making shots in color alternately with those in black and white. We merely switched from BGX to Ansco Color and changed our lens stops. Standard Mitchell 35mm. cameras were used in both instances, of course. The scenes filmed in color were later edited into minute-movie presentations for showing in theatres. The print order for each minute-movie alone was over 750 — greater than that of most major feature films.

To glamourize the color scenes I used a huge sequin curtain to backdrop the subject of our filming — new 1950 Ford

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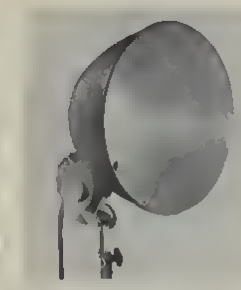

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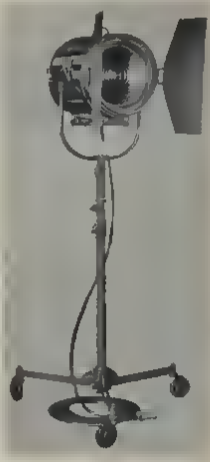

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cars. The various models were mounted on a raised, revolving platform. Usually we focused on the car from high in the rafters of the sound stage, then zoomed down with the camera boom to a close shot of the colorful and attractive heraldic shield on the nose of the car.

Color combinations were carefully chosen to enhance the color schemes of the various cars. For a chartreuse convertible we bathed the sequin backdrop in purple light. The grey two-door was backdropped with blue-green light, while the metallic blue fordoor was glamourized against a backdrop of gold lighting.

No waxing or buttermilk was used on the bright metal trim of the cars, with exception of the bumpers. From past experience in color photography I learned that car bumpers invariably kick a reddish hot spot. So I touched up likely flare spots on the Ford bumpers with a blue paste. Thus the metal shone like new, without a hint of flare.

U.P.A.'s cartoon experience served a good purpose in dreaming up some novel shadow effects for the backdrops against which the Fords were filmed. In one instance a car was photographed rotating slowly before a backdrop on which the artistic shadow of a Monterey cypress was projected by the light of a powerful open arc lamp. For others we used a shadow-graph of the huge shell of the Hollywood Bowl, with our sequin backdrop furnishing the effect of a star-lit background—an effect that required careful lighting and placement of the camera. We improvised new and unusual camera boom movements to produce spectacular visual presentation of the Fords thus staged. This required considerable rehearsal with equipment and technical crew, but the final results easily justified the time expended.

Because of the highly reflective surface of a new car, the placement of lights for each shot became quite an undertaking in order to minimize flare and at the same time insure that any change in the lighting did not wash out our shadow effects on the backings. Both problems were minimized by mounting our brutes at considerable height.

After all interiors were completed, we hit out for the open road to film exteriors. One scene called for a close shot of a mother and child riding in the comfortable rear seat of a Ford sedan. For this we rigged an Eyemo camera with a 24mm. lens outside the car. To balance the daylight coming through the car's windows with the reflected light in the interior, we covered the windows with several ND filter gels, supplied by Mole-Richardson Company. To keep the filter gels from wrinkling, they were smoothly cemented to surface of the glass. Small

reflectors supplied fill light for the mother and child.

Photographing this series of advertising films for television proved several theories—one, that television has already grown up to long pants age and offers cinematographers opportunities equaling those in the production of theatrical films. In this instance, the budget was such that we earned the same rate of income as for a feature film. Light volume and stage area employed was about equal that for the average production numbers of a color musical film. Arc lighting assisted us in obtaining the top quality photography demanded by television.

An interesting sidelight was one of the pre-production steps employed by director Gunther Fritsch in scouting locations for the exteriors. Using a Polaroid-Land still camera, which produces completely developed prints of snapshots in the space of a minute, Fritsch made photos of likely locales, then mounted them all on a large sheet of paper, story-board fashion. From this layout we planned our photography and saved considerable time and expense that might otherwise have been expended had the entire crew traveled in search of location sites.

FILMING SUNSETS IN COLOR

(Continued from Page 278)

Now there is one thing that can mar a good sunset shot and that is halation resulting from shooting the sun not screened by clouds. The sun should be entirely under clouds during the time the scene is filmed, and as the cloud mass may or may not be moving in the sky, this need not pose a problem as the sun itself in its movement will ultimately slip behind the clouds to insure a satisfactory take. A good rule to follow is to wait until you can look directly at the sun without squinting, then calculate exposure and shoot.

Numerous exposure guides have been published at one time or another setting forth suggested lens settings for filming sunsets in color under various conditions and at different periods within the sunset interval. Recently I saw one such chart that recommended a stop of f/2.8 with daylight Kodachrome in filming a sunset any time between the interval of 15 minutes before sunset and time sun disappears below the horizon. This would naturally limit the number of cine photographers who can shoot sunsets in color, as not too many have cameras with lenses as fast as f/2.8. My experience has been that, while it is essential to use a light meter to determine exposure for a sunset shot, most shots can be made with regular Kodachrome at approximately f/4.5 with satisfactory results.

The most picturesque marine sunsets prevail, not when the sun is actually setting, but when about 5 to 10 degrees above the horizon—or during the last 15 minutes.

The coloring of sunsets varies with the locale. Many sunsets over the ocean lack the brilliant red and orange coloring we find in the sunsets in the western United States. This is because dust particles are often absent in the air over the ocean.

But it is in the cloud pattern itself that often determines the pictorial qualities of a sunset. The composition of your sunset shot will require consideration of the cloud mass obscurring the sun as well as any objects on land, either in the foreground or on the horizon. Making such shots near the sea, the first step should be to place the camera so it will pick up some foreground object typical of the locale, such as pier pilings or the mast or rigging of a ship, using these objects to frame the scene. On the desert, cactus and joshua trees may be silhouetted

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against the sky for effective framing of the scene. Mountain sunset shots are best framed in a setting of lofty pines and mountain peaks.

Take time to move around with your camera, observing the scene through your viewfinder, until the best composition appears. Thus you will secure not only the grandeur of color in the sky, but the compositional completeness of surrounding objects which not only frame the scene but lend it depth and realism.

Because the grandeur and formation of clouds at sunset constantly change as the setting sun descends, a highly effective method of recording a sunset is to shoot its progress a few frames at a time. This may be done by exposing normally about two feet of film at intervals of two or three minutes. Readers who own cameras with single-frame exposure release can make an effective record of a sunset by exposing one frame at intervals of every 30 seconds or more, depending upon the speed of the changing cloud formation and color. On the screen, the full scope of the sunset is telescoped into a single scene only a few minutes in length.

A "sunrise" shot may be improvised following this same method, except that the camera must be inverted or turned upside down — the scene strip being turned end for end after processing and re-spliced into the roll. For this a special bracket is required to hold the camera solidly in the inverted position so that it cannot be jarred when the starting button is operated for the interval exposures.

A colorful sunset makes a logical closing shot for scenic films such as travel and vacation movies, and should end in a fadeout. This can be done by gradually closing the lens diaphragm, then placing one hand over the lens to completely close out the light. For the "sunrise" shot, the fade is made in the same manner but becomes a fadein on the screen.

In making the stop motion and fade-out shots described above, it is essential that the camera be mounted on a rigid tripod, for any jarring of the camera during the exposure will detract from the shot.

REALISM WITH A MASTER'S TOUCH

(Continued from Page 271)

proves in this picture that a craftsman who knows his tools can combine realism with the kind of technical finish one has come to expect of Grade A studio product.

To Rosson, who for years has been considered one of the top "glamour" cameramen in Hollywood, the lighting requirements of "Asphalt Jungle" presented a challenge and called for a complete departure from anything he had ever done. Accustomed to having to consider the "best side" of this or that star's face, as well as the necessity of eliminating double chins, crows feet and the ravages of stellar hangovers, it was a refreshing experience to be given a cast of good actors who were not name stars and who did not have to be glamourized on the screen.

With the exception of Marylin Monroe, who plays the part of a bush-league Lana Turner and is therefore given the full benefit of glamour lighting, all of the players were photographed as realistically as possible. In the case of the feminine lead, an exceptionally attractive actress named Jean Hagen, it was actually necessary to play down her good looks so that they would not detract from the drama of her characterization.

In lighting the picture, Rosson took into consideration the fact that the underworld has a peculiar glamour all its own — a harsh, sinister, ominous quality that warns of danger lurking in every shadow. He lighted each set to simulate light sources natural to the particular locale, and in so-doing he let the shadows lie where they would naturally fall. This meant that instead of having to light his players so that they would be fully illuminated throughout the entire pattern of action in the sequence, he could light the set with perfect realism and let the players play in and out of the light as they would in the actual situation. In some cases the actors went completely into silhouette, an effect which added greatly to the drama of the sequence.

Almost the entire picture was filmed with a 35mm. lens in order to achieve depth-of-field as well as dramatic perspective. The depth factor assumed unusual importance because director Huston staged much of the action with players prominent in the foreground, but with important action also transpiring in the background. In order to hold both of these widely separated planes in sharp focus, it was necessary to use unusually high light levels and stop the lens down for greater depth-of-focus. The trick in this type of filming is to match a scene shot at f.2.8 with one shot

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at f.5.6 for the same sequence—retaining, for example, the same degree of luminosity in the walls of the set while keeping the key of the lighting identical in both shots. When a lens is stopped down in this fashion there is a natural tendency toward increased contrast, and some skillful calculation is required to keep all of the light values in balance to match scenes shot at a wider aperture.

Rosson used low camera angles extensively in "Jungle" in order to emphasize the dominant character of the underworld personalities portrayed, and such shots were particularly effective in sequences where the action is played from planes far back on the set on up to close-ups. An added problem in such shots was the fact that ceilings had to be used on the sets, thus making light placement more difficult.

The process of *latensification* was widely employed in this film in order to permit realistic lighting of night exterior scenes. With this method it is possible to photograph scenes with a great deal less light, or by means of light natural to the locale. In the case of the night exteriors it was possible to shoot with far

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less illumination than would ordinarily have been required, and the effect is more realistic

In one instance, latensification permitted the filming of a sequence that otherwise could not have been captured on film. Part of the chase takes place through a tunnel approximately 300 feet long, three feet wide, and six feet high, with smooth concrete walls and no recesses in which to hide lights. The only illumination comes from small bare bulbs used to light the tunnel, but these were sufficient to get an exposure when shot with film that was later latensified.

After all of the harshly dramatic low-key interiors it was a welcome break for Rosson to go to Kentucky to film the beautiful sun-lit horse farm which is the locale of the picture's final sequence. It is in a meadow, surrounded by peacefully grazing offspring of War Admiral, that the protagonist finally dies, thus fulfilling the moral of the story and the demands of the Johnston Office.

A veteran of more than 30 years in motion pictures (the last 20 of which have been spent at MGM), Hal Rosson has filmed many outstanding successes Among his own favorites are: "Captains Courageous," "The Scarlet Pimpernel," "The Ghost Goes West," and all of the Clark Gable pictures He recently completed Gable's latest, the as yet unreleased "To Please a Lady." Prior to the war he filmed many pictures in England for Alexander Korda as well as for MGM, including "Things to Come" and "A Yank at Oxford." He is now preparing "The Red Badge of Courage," a Civil War story in which he will again team with director Huston.

In approaching a screen story he reads the script carefully, mapping out the camera's role in each sequence, as well as in the establishment of mood and style for the entire picture

"I think of the camera as a member of the cast — an actor," he explains "and as such it must play its part and give the finest possible performance. It is my job in directing this particular actor to get the best from it. 'Jungle' was one of the most interesting pictures I've ever been privileged to work on, and it was made especially pleasant due to the unusual teamwork and enthusiasm of the cast and crew Each evening, all of them voluntarily stayed an hour or so late to crowd into the projection room and view the previous day's rushes. How do *I* feel about the picture? Well, if in 20 years someone asks me to name the favorite pictures I've worked on, I'm sure that 'Asphalt Jungle' will stand right at the top of the list."

KEEPING UP WITH PHOTOGRAPHY

(Continued from Page 266)

arranged as to produce the minimum sound reflection. The echo-free room reportedly also will be used in testing motion picture cameras in sound blimps of various design, with the object of developing lighter, more compact blimps.

•

Africa is to have a modern studio for production of motion pictures. Construction work has already started on Africa Film Productions' new 30-acre studio at Parkmore, Johannesburg. The first section — the laboratory block — will be completed by the end of the year and the studios are expected to be ready for full-schedule film production by 1952.

•

Photography has become a precise science capable of supplying data as dependable as that obtained in other physical sciences. An unusual industrial use of photography is the application of an ordinary camera and camera technique to estimate the volume of pulpwood in stock piles. By using a high contrast photographic material, a flat car full of wood is photographed. Spaces between the logs are produced as black areas. The faces of the logs become white areas. A special photo-electric scanning machine is then used to evaluate the amount of light areas to the dark areas and assuming the length of the logs to be standard, an accurate estimate of the total volume of wood can be obtained.

•

A color film, exposed at 3,000 frames per second — 120 times faster than ordinary commercial film — was recently demonstrated in England. This new, super-speed with color film has been made possible by the development of a new form of mercury-cadmium lamp which can be overloaded to produce, for a few seconds, a greater light intensity than anything achieved before

•

India's first motion picture in Ansco Color, produced by modern technical equipment, has been completed. Previously, all 35mm. color films made in India were colored laboriously by hand from the original black and white negatives According to an Indian motion picture executive, this is the first time that any 35mm. color printing has been

made from a color film, the original of which was filmed entirely in India by an Indian motion picture producer.

●

A 16mm. dual-recording camera capable of producing either variable-area or variable-density tracks has, according to Foto-Kino-Technik, been developed by a German engineer, Ludwig Koch.

Camera has a similar appearance to normal 35mm recorders, with 400-foot magazines, carrying single perforated stock. On the left-hand side of the camera is the driving motor of the synchronous type, and on the right the control switches and meter.

Film is recorded on a drum, carrying a heavy flywheel, driven through a filtering system to insure consistency of film speed. Shafts and rollers run on ball-bearings, and the noise of the camera is reduced to a minimum.

Koch experimented with various recording systems — the glow-lamp, the high-pressure mercury lamp, and the oscillograph. A different system however, was finally adopted, but what it is, is not stated. The method of changing from variable-area to variable-density is not explained, although adjustment of a mask is mentioned, which can be observed through a microscope. Monitoring is effected by means of a photocell and amplifier.

A three-channel mixer is provided, together with a main amplifier and gain control, and a monitoring instrument.

MAGNETIC RECORDING

(Continued from Page 273)

netic film, thus it may be used many times.

In the scoring and dubbing procedures rehearsals are made on magnetic film, thus the first satisfactory rehearsal is the printed take.

Important in this consideration is the fact that the technique and each piece of equipment has been worked out so as to become a part of an overall system. The approach to magnetic recording should be on this basis.

A complete technical description of the equipment and methods used was presented at the Chicago Convention of the Society of Motion Picture and Television Engineers and will be published in the Journal of that Society under the title "Motion Picture Studio Use of Magnetic Recording." Ryder 16mm. Services, Inc., is being expanded to handle 35mm. as well as 16mm. magnetic sound recording, and welcomes the opportunity to be of service to anyone interested in this phase of motion picture production.

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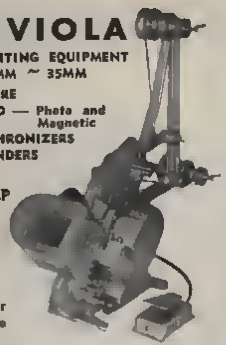

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Photovolt Densitometer

A precision photo-electric sound-track and color densitometer is announced by Photovolt Corp., 95 Madison Ave., N.Y. Instrument affords exact measurement of density on the sound track of either 16mm. or 35mm motion picture films. It gives accurate evaluation of sensitometric tablets and the tonal analysis of color films Priced at $395 00, manufacturer's bulletin No. 245 is available free which gives further data.

Goerz Rectagon Lens

Now available for all-purpose photography is the new Goerz Rectagon lens with a rated speed of f/6 Elements are actually over-size to admit more light and give increased illumination to the edges of the large field. Front and rear elements are said to be almost twice the diameter of the largest effective aperture.

Rectagon is an unsymmetrical lens system, which was made for precision aerial mapping, requiring high resolution and no distortion over the entire field. Formula is such that lens can be used from infinity focus down to 1:1, where the image equals the size of the object. At present time a 3-in focal length is available either in iris barrel or fitted to shutters as ordered Field coverage is 90 degrees.

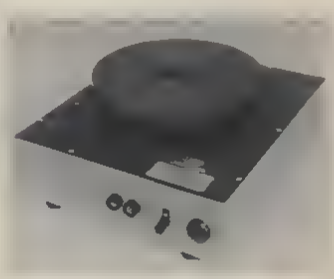
Magnetic Sound Reader

Moviolas for 35mm. sound film may be converted for reading magnetic sound tracks, according to Moviola Manufacturing Company, Hollywood, which company has announced a magnetic sound conversion for present Moviolas, permitting them to be used for either optical or magnetic sound tracks.

Modified machines are converted to read magnetic sound tracks on 35mm. film, although they can also be made to read split-35mm. (17½mm) tracks at slight additional cost.

Magnetic sound tracks run through the Moviola with the magnetic coated side of the film up. Pickup head can be mounted in any position across the film, in order to accommodate the different recording positions which are presently in use.

Approximate cost for the magnetic sound conversion is $110.00. Additional data may be had by writing Mr. Mark Surrurrier, Moviola Mfg Co., 1451 Gordon St., Hollywood, Calif



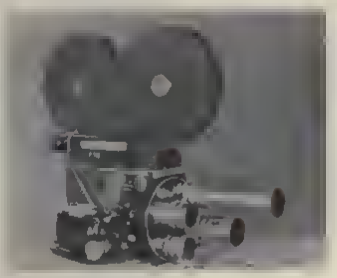
Kinevox Sounderaser

An instantaneous erase device for use in erasing recorded sound on 16mm., 17½mm., and 35mm. magnetic film and ¼-in. magnetic tape is offered by Kinevox, Inc., Burbank, Calif. Unit requires only a few seconds to erase full 1000-ft. reel of tape or film. No unwinding or rewinding is necessary, so that tape or film is ready for use again within minutes of the erase operation Operates on 110-volt 50-60 cycle AC current Price is $60.00.

Turret For "Cine-Voice" Camera

A precision-built 3-lens turret is now available for the Auricon "Cine-Voice" 16mm. sound camera. New turret has

full professional standards of accuracy and permits instantaneous change from one "C" mount lens to another. Lens seats are so placed that both wide angle and telephoto lenses may be mounted without interference. Manufacturer is Berndt-Bach, Inc., Los Angeles. Turret is priced at $89.50.



400-Ft. Magazine for "Special"

A 400-foot film magazine is new addition to line of Cine-Special camera accessories offered by Par Products Corp., 926 N. Citrus Ave., Hollywood.

Magazine features light trap which opens automatically when camera door is closed, reverses for backwinding; and includes a footage counter. Installation of magazine does not prevent normal use of camera's regular 100-ft. film chamber. Also available is synchronous motor drive for the "Special" that operates camera at 24 f.p.s. Further data and prices available from the manufacturer.

New 16mm. Arriflex

The Camera Mart, 70 W. 45th St., N. Y. City, has completed arrangements for eastern sales of the new foreign-built Arriflex 16mm. camera, which will be available in the U. S. shortly. Already handling the 35mm. Arriflex, company also builds blimps and synchronous motors for this camera.

Magnetic Film Reader

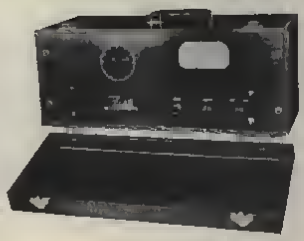
Kinevox, Inc., 4000 Riverside Drive, Burbank, Calif., announces, as additional equipment to their fast growing line of magnetic recording apparatus, the Kinevox Magnetic Film Reader as an aid to editing 17½mm. and 16mm. magnetic film and ¼-inch magnetic tape. Unit is used between two film rewinds and magnetic film is guided over the playback head by precision rollers. Pilot light indicates when amplifier power is on or off. Amplifier and speaker are built in. Headphones, not furnished, may also be used. Price of Reader is $87.50, F.O.B.

NOW! Synchronous Recording

WITH YOUR PRESENT TAPE RECORDER

Here's good news! The new Fairchild Control Track Generator makes possible picture synchronous sound-track recording with any tape recorder with response good to 14KC.

Here's how! This new Fairchild instrument superimposes a high frequency signal on magnetic tape simultaneously with the sound track. This signal becomes the tape speed control when played back on a Fairchild Pic-Sync Tape Recorder. No extra heads or modifications to presently owned tape recorders are required.



This compact unit comes in a small carrying case—for on-location work—and may be removed for rack mounting. FR-117

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BULLETIN BOARD

(Continued from Page 268)

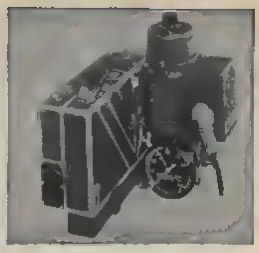
ALFRED GILKS, A.S.C., photographed "The Tender Hours" at M-G-M, using the new "fast" Technicolor film.

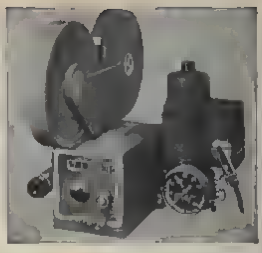
●

FRED JACKMAN, JR., A.S.C., returned to Hollywood from Puerto Rico latter part of July, where he directed the photography on Ed Gardner's, "The Man With My Face," brought the picture in on schedule.

●

DONALD E. NYNDMAN has been appointed manager of Eastman Kodak Company's motion picture film department, replacing Kenneth M. Cunningham, who relinquished the post because of ill health. Latter will assist Edward P. Curtis in the export sales of motion picture film.





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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month

Columbia

• HARRY STRADLING, "Valentino," (Edward Small Prod.) with Tony Dexter, Eleanor Parker and Richard Carlson Lewis Allen, director

• LEE GARMES, "The Hero," (Sidney Buchman Enterprises) with John Derek and Aldo De Re David Miller, director

• JOSEPH WALKER, "Born Yesterday," with Broderick Crawford, Judy Holliday, William Holden, and Millard Mitchell George Cukor, director.

• CHARLES LAWTON, "Santa Fe," with Randolph Scott, Janis Carter, Peter Thompson, Jerome Courtland, Roy Roberts, John Archer Irving Pichel, director

• PHIL TANNURA, "The Tougher They Come, with Preston Foster, Wayne Morris, William Bishop and Gloria Henry Ray Nazzaro, director

Independent

• JACK CARDIFF "Pandora And The Flying Dutchman," (Lewin-Kaufman Prod., shooting in Europe) with James Mason, Ava Gardner Albert Lewin, director.

• ERNEST LASZLO, "M," (Superior Films) with David Wayne, Steve Brodv, Glenn Anders and Walter Burke Joseph Losey, director

• FRED JACKMAN, JR., "The Man With My Face," (Ed Gardner Prod — Shooting in Puerto Rico) with Barry Nelson, Betty Lou Gerson, Carol Mathews, and John Harvey Edward Montague, director

• PEVERELL MARLEY, "Illegal Bride," (Fidelity Pictures) with Ginger Rogers, Jack Carson, Joan Davis and Stanley Ridges Richard Whorf, director

• MACREL LE PICARD, "Quarter Horse," (Hall Shelton Prod.) with Karen Morley, Donald Woods, Leif Erickson and Rand Brooks William Beaudine, director

• STEWART THOMPSON, "At War With The Army," (York Prod.) with Dean Martin, Jerry Lewis, and Polly Burgen Hal Walker, director.

M-G-M

• CHARLES ROSHER, "Pagan Love Song," (Technicolor — shooting in Hawaii) with Esther Williams and Howard Keel Robert Alton, director

• ROBERT SURTEES and WILLIAM SKALL, "Quo Vadis," (Shooting In Italy) with Robert Taylor, Deborah Kerr Mervyn LeRoy, director

• ALFRED GILKS, "Shep Of The Painted Hills," (Technicolor) with Lassie, Paul Kelly, Bruce Cowling, Gary Gray. Harold F Kress, director

• GEORGE FOLSEY, "Vengeance Valley," (Technicolor) with Burt Lancaster, Robert Walker, Joanne Drue, John Ireland, Sally Forrest Richard Thorpe, director

• JOSEPH RUTTENBERG, "Magnificent Yankee," with Louis Calhern, Ann Harding, Eduard Franz, Philip Ober and Richard Anderson John Sturges, director

• ROBERT PLANCK, "Royal Wedding," (Technicolor) with Fred Astaire, Jane Powell, Peter Lawford, Sarah Churchill and Keenan Wynn Stanley Donen, director

Monogram

• HARRY NEUMANN, "Texas Raiders," with Johnny Mack Brown, Jane Adams and Riley Hill Lewis D Collins, director

Paramount

• GEORGE BARNES, "Mr And Miss Anonymous," with Joan Fontaine, Ray Milland, and Teresa Wright George Stevens, director

• CHARLES LANG, "A Relative Stranger," with Gene Tierney, John Lund, and Miriam Hopkins Mitchel Leisen, director

• RAY RENNAHAN, "The Great Missouri Raid," (Nat Holt Prod—In Technicolor) with Wendell Corey, MacDonald Carey, Ward Bond and Ellen Drew, Gordon Douglas, director

• W HOWARD GREENE, "Quebec," (LeMay Templeton Prod.) with John Barrymore, Jr., Corinne Calvet, Patric Knowles, Barbara Rush George Templeton, director.

• LOYAL GRIGGS, "Passage West" (Pine-Thomas Prod.) with John Payne, Dennis O'Keefe, Arleen Whelan Frank Faylen, Mary Beth Hughes Lewis R. Foster, director

• CHARLES LANG, "Ace In The Hole," with Kirk Douglas, Jan Sterling, Porter Hall, and Richard Benedict Billy Wilder, director

• DANIEL FAPP "The Lemon Drop Kid," with Bob Hope, Andrea King, Fred Clark, Marilyn Maxwell and Lloyd Nolan

R.K.O.

• GEORGE DISKANT, "Target," with Charles McGraw, Jacqueline White, Gordon Gebert, and Marie Windsor Dick Fleischer, director

• ARCHIE STOUT, "Mother Of A Champion," (Filmakers Prod.) with Claire Trevor, Sally Forest, Robert Clarke and Kenneth Patterson Ida Lupino, director

• FRANK REDMAN "Double Deal," with Richard Denning Marie Windsor, Fay Baker, and Taylor Holmes Abby Berlin, director

Republic

• ARCHIE STOUT, "Rio Bravo," with John Wayne, Maureen O'Hara, Ben Johnson, Claude Jarman, Jr, Chill Wills John Ford, director

20th Century-Fox

• WINTON HOCH, "The Halls Of Montezuma," (Technicolor — shooting in Mexico) with Richard Widmark, Reginald Gardiner, Skip Homeier Lewis Milestone, director

• EDWARD CRONJAGER, "I'd Climb The Highest Mountain," (Technicolor) with Susan Hayward, Wm Lundigan, Rory Calhoun, Lynn Bari, Ruth Donnelly Henry King, director.

• JOE MCDONALD, "Fourteen Hours," with Paul Douglas, Richard Basehart, Deborah Paget, Jeff Corey, Agnes Morehead Henry Hathaway, director

• JOSEPH LASHELLE, "The Jackpot," with James Stewart, Patricia Medina Alan Mowbray, James Gleason, Natalie Wood Walter Lang, director

• LLOYD AHERN, "For Heaven's Sake," with Clifton Webb, Joan Bennett, Robert Cummings, Edmund Gwenn, and Joan Blondell George Seaton, director

• ARTHUR ARLING, 'Call Me Mister," (Technicolor) with Betty Grable, Dan Dailey, Danny Thomas, Dale Robertson, Frank Fontaine, and Benay Venuta Lloyd Bacon, director.

• MILTON KRASNER, 'Half Angel," (Technicolor) with Joseph Cotten, Loretta Young, Cecil Kellaway, Basil Ruysdael and John Ridgely Jules Dassin, director

United Artists

• DON MALKAMES, St Benny The Dip," (Shooting In New York) with Roland Young, Dick Haymes, Lionel Stander, Nina Foch, and Freddie Bartholomew Edgar Ulmer, director

• FRANK PLANER, "Cyrano de Bergerac," (Stanley Kramer Prod.) with Jose Ferrer, Mala Powers, William Prince and Morris Carnovsky Michael Gordon, director

Universal-International

• CHARLES BOYLE, Tomahawk," (Technicolor) with Van Heflin, Yvonne de Carlo, Preston Foster, Jack Oakie, Tom Tully George Sherman director

• RUSSELL METTY, "Katie," with Ann Blythe, Mark Stevens, Cecil Kellaway, and Elizabeth Patterson Frederick de Cordova, director

• MAURY GERTSMAN, "Smuggler's Island," (Technicolor) with Jeff Chandler, Evelyn Keys, Philip Friend Edward Ludwig, director

• CARL GUTHRIE, "Undercover Girl," with Alexis Smith and Scott Brady Joseph Pevney, director

• CLIFFORD STINE, "Mystery Submarine" with Macdonald Carey, Marta Toren, Robert Douglas and Ludwig Donath Douglas Sirk, director

Warner Brothers

• TED MCCORD, 'Rocky Mountain,' with Errol Flynn, Patrice Wymore, Scott Forbes, Peter Coe, Howard Petrie William Keighley, director

• SID HICKOX, "The West Point Story,' with James Cagney, Virginia Mayo, Doris Day, Gordon MacRae, Gene Nelson Roy Del Ruth, director

• EDWIN DUPAR, 'Breakthrough," with David Brian, John Agar, Frank Lovejoy Andre Charlat and Dick Wesson Lew Seiler, director

• WILFRED CLINE, 'Raton Pass," with Dennis Morgan, Patricia Neal, Steve Cochrane and Scott Forbes Edwin L Marin, director

Leaflet Lists Peerless Equipment Installations

A new leaflet, "Where They Are," listing all Peerless installations may be obtained free from the Peerless Film Processing Corporation, 165 W 46th St., New York 19, N. Y.

Peerless Film Processing equipment has been installed in the film library of Ideal Pictures Corporation in its new Chicago quarters.

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